

ATTACHMENT 2

Proposed 15- Day Modifications

California Environmental Protection Agency
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 2001 AND SUBSEQUENT MODEL PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES

Adopted: August 5, 1999
Amended: December 27, 2000
Amended: July 30, 2002
Amended: September 5, 2003 (corrected February 20, 2004)
Amended: May 28, 2004
Amended: August 4, 2005
Amended: June 22, 2006
Amended: October 17, 2007
Amended: May 2, 2008
Amended: [Insert date of Plug-in Hybrid Electric Vehicle amendment]
Amended: [Insert date of amendment]

Note: Amendments to this document that were originally proposed in this rulemaking are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions compared to the test procedures as last amended May 2, 2008. Modifications to the originally proposed language made available in connection with this “15-Day Notice” are shown in double underline to indicate additions and ~~double-strikeout~~ to indicate deletions. The document in which the amendments are being shown is a version that was initially approved by the Board on May 28, 2009 for adoption as part of the “Rulemaking to Consider Plug-in Hybrid Electric Vehicle Test Procedure Amendments and Aftermarket Parts Certification Requirements Adoption.” That rulemaking is not yet final. For subsections for which no changes are proposed, the text has been omitted and the omission indicated by “* * * *.”

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**CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES
FOR 2001 AND SUBSEQUENT MODEL
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES**

The provisions of Subparts B, C, and S, Part 86, Title 40, Code of Federal Regulations, as adopted or amended on May 4, 1999 or as last amended on such other date set forth next to the 40 CFR Part 86 section title listed below, and to the extent they pertain to exhaust emission standards and test procedures, are hereby adopted as the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” with the following exceptions and additions.

**PART I: GENERAL PROVISIONS FOR CERTIFICATION AND IN-USE
VERIFICATION OF EMISSIONS**

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E. California Exhaust Emission Standards.

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2. Emission Standards Phase-In Requirements for Manufacturers

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2.5 Fleet Average Greenhouse Gas Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles.

2.5.1 The fleet average greenhouse gas exhaust mass emission values from passenger cars, light-duty trucks, and medium-duty passenger vehicles that are produced and delivered for sale in California each model year by a large volume manufacturer shall not exceed:

FLEET AVERAGE GREENHOUSE GAS EXHAUST MASS EMISSION REQUIREMENTS FOR PASSENGER CAR, LIGHT-DUTY TRUCK, AND MEDIUM-DUTY PASSENGER VEHICLE WEIGHT CLASSES¹ (4,000 mile Durability Vehicle Basis)		
Model Year	<i>Fleet Average Greenhouse Gas Emissions (grams per mile CO₂-equivalent)</i>	
	<i>All PCs; LDTs 0-3750 lbs. LVW</i>	<i>LDTs 3751 lbs. LVW - 8500 lbs. GVW; MDPVs</i>
2009	323	439
2010	301	420
2011	267	390
2012	233	361
2013	227	355
2014	222	350
2015	213	341
2016+	205	332

¹ Each manufacturer shall demonstrate compliance with these values in accordance with Section E.2.5.2.

2.5.1.1 For each model year, a manufacturer must demonstrate compliance with the fleet average requirements in this section E.2.5.1 based on one of two options applicable throughout the model year , either:

Option 1: the total number of passenger cars, light-duty trucks, and medium-duty passenger vehicles that are certified to the California exhaust emission standards in section 1961.1, title 13, CCR, and are produced and delivered for sale in California; or

Option 2: the total number of passenger cars, light-duty trucks, and medium-duty passenger vehicles that are certified to the California exhaust emission standards in section 1961.1, title 13, CCR, and are produced and delivered for sale in California, the District of Columbia, and all states that have adopted California's greenhouse gas emission standards for that model year pursuant to Section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

2.5.1.1.1 For the 2009 and 2010 model years, a manufacturer that selects compliance Option 2 must notify the Executive Officer of that selection in writing within 30 days of the effective date of the amendments to this section 2.5.1.1. or must comply with Option 1.

2.5.1.1.2 For the 2011 and later model years, a manufacturer that selects compliance Option 2 must notify the Executive Officer of that selection in writing prior to the start of the applicable model year or must comply with Option 1.

2.5.1.1.3 When a manufacturer is demonstrating compliance using Option 2 for a given model year, the term "in California" as used in subsections

E.2.5.2.3 and E.3.2 means California, the District of Columbia, and all states that have adopted California’s greenhouse gas emission standards for that model year pursuant to Section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

2.5.1.1.4 A manufacturer that selects compliance Option 2 must provide to the Executive Officer separate values for the number of vehicles produced, and delivered, and for sales values separately for in the District of Columbia and for each individual state within the average.

2.5.2 Calculation of Fleet Average Greenhouse Gas Value.

2.5.2.1 Basic Calculation.

2.5.2.1.1 OPTION A: Each manufacturer shall calculate both a “city” grams per mile average CO₂-equivalent value for each GHG vehicle test group and a “highway” grams per mile average CO₂-equivalent value for each GHG vehicle test group, including AB 965 vehicles and vehicles certified in accordance with Section E.1.12 of these test procedures, using the following formula. OPTION B: For a manufacturer that elects to demonstrate compliance with the greenhouse gas requirements using CAFE data, “GHG vehicle test group” shall mean “subconfiguration” in this subsection E.2.5.2.1.1. Greenhouse Gas emissions used for the “city” CO₂-equivalent value calculation shall be measured using the “FTP” test cycle (40 CFR, Part 86, Subpart B), as modified in Part II of these test procedures. Greenhouse Gas emissions used for the “highway” CO₂-equivalent value calculation shall be based on emissions measured using the Highway Test Procedures.

$$\text{CO}_2\text{-Equivalent Value} = \text{CO}_2 + 296 \times \text{N}_2\text{O} + 23 \times \text{CH}_4 - \text{A/C Direct Emissions Allowance} - \text{A/C Indirect Emissions Allowance}$$

A manufacturer may use N₂O = 0.006 grams per mile in lieu of measuring N₂O exhaust emissions. A manufacturer that elects to use CAFE Program emissions data to demonstrate compliance with the greenhouse requirements may substitute the term 1.9 CO₂-equivalent grams per mile for the terms “296 x N₂O + 23 x CH₄” in this equation.

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3. Calculation of Credits/Debits

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3.2 Calculation of Greenhouse Gas Credits/Debits.

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3.2.3 Procedure for Offsetting Greenhouse Gas Debits.

3.2.3.1. A manufacturer shall equalize Greenhouse Gas emission debits by earning g/mi Greenhouse Gas emission credits in an amount equal to the g/mi Greenhouse Gas debits, or by submitting a commensurate amount of g/mi Greenhouse Gas credits to the Executive Officer that were earned previously or acquired from another manufacturer. A manufacturer shall equalize Greenhouse Gas debits for PCs, LDTs, and MDPVs within five model years after they are earned. If emission debits are not equalized within the specified time period, the manufacturer shall be subject to the Health and Safety Code section 43211 civil penalty applicable to a manufacturer which sells a new motor vehicle that does not meet the applicable emission standards adopted by the state board. The cause of action shall be deemed to accrue when the emission debits are not equalized by the end of the specified time period. A manufacturer demonstrating compliance under Option 2 in section E.2.5.1.1, must calculate the emission debits that are subject to a civil penalty under Health and Safety Code section 43211 separately for California, the District of Columbia, and for each individual state that is included in the fleet average greenhouse gas requirements in subsection E.2.5.1.1. The manufacturer must calculate these emission debits separately for California, the District of Columbia, and each individual state using the formula in subsections E. 3.2.1.2 and E.3.2.2, except that the “Total No. of Vehicles Produced and Delivered for Sale in California, Including ZEVs and HEVs” shall be calculated separately for the District of Columbia and each individual state.

For the purposes of Health and Safety Code section 43211, the number of passenger cars and LDT1s not meeting the state board’s emission standards shall be determined by dividing the total amount of g/mi Greenhouse Gas emission debits for the model year calculated for California by the g/mi Greenhouse Gas fleet average requirement for PCs and LDTs 0-3750 lbs. LVW applicable for the model year in which the debits were first incurred, and the number of LDT2s and MDPVs not meeting the state board’s emission standards shall be determined by dividing the total amount of g/mi Greenhouse Gas emission debits for the model year calculated for California by the g/mi Greenhouse Gas fleet average requirement for LDTs 3751 lbs. GVW and MDPVs applicable for the model year in which the debits were first occurred.

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H. Certification, Information and Reporting Requirements.

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4. §86.1844 Information Requirements: Application for Certification and Submittal of Information Upon Request.

4.5 Greenhouse Gas Reporting Requirements.

(a) For the purpose of demonstrating compliance with greenhouse gas requirements, the manufacturer shall provide by May 1 of the calendar year following the close of the model year:

(i) A manufacturer that demonstrates compliance under section E.2.5.2.1.1, Option A, must submit a comprehensive list of all emission test results, including the test vehicle description and identification number, CO₂, CH₄, and N₂O emission data, the data and/or justifications used to determine the “worst case” greenhouse gas test vehicle configuration, as required by G.2.3.2, for each greenhouse gas vehicle test group. A manufacturer that demonstrates compliance under section E.2.5.2.1.1, Option B, must submit a comprehensive list of all emission test results used to calculate its Corporate Average Fuel Economy, including the test vehicle description and identification number, for each subconfiguration and the number of vehicles produced and delivered for sale under Option 1 or Option 2 in section E.2.5.1.1, as applicable, that are represented by the subconfiguration. A manufacturer ~~shall~~ must not submit any emission test results from vehicles tested, or calculated results, as part of the Corporate Average Fuel Economy Program, unless those results have been judged acceptable by the U.S. Environmental Protection Agency, in accordance with §600.007-08. A manufacturer that submits data from the Corporate Average Fuel Economy Program must clearly indicate whether the data is derived from vehicle testing or whether it is calculated. A manufacturer that elects to use CAFE Program emissions data to demonstrate compliance with the greenhouse requirements must use all of the data that is used by the U.S. Environmental Protection Agency to determine a manufacturer’s corporate average fuel economy for the applicable model year, and may forego testing of the “worst-case” configuration;

(ii) a description of each air conditioning system and all data used to calculate the A/C Direct Emissions Allowance in subsection E.2.5.2.1.2 and the A/C Indirect Emissions Allowance in subsection E.2.5.2.1.3;

(iii) for vehicles certifying using the optional alternative compliance mechanisms in subsection E.2.5.2.2.1, all data required therein;

(iv) for manufacturers demonstrating compliance under section E.2.5.1.1, Option 1, and E.2.5.2.1.1 Option A, final volume of California vehicles produced and ~~sales~~ delivered for sale ~~volumes~~ for each greenhouse gas vehicle test group; ~~and~~

(v) for manufacturers demonstrating compliance under section E.2.5.1.1, Option 1, and E.2.5.2.1.1 Option B, final volume of California vehicles produced and delivered for sale for each subconfiguration;

(vi) for manufacturers demonstrating compliance under section E.2.5.1.1, Option 2, and E.2.5.2.1.1 Option A, final combined and individual state volumes of vehicles produced and delivered for sale for each greenhouse gas vehicle test group for California, the District of Columbia, and all states that have

adopted California's greenhouse gas emission standards for that model year pursuant to section 177 of the federal Clean Air Act (42 U.S.C. § 7507); and (vii) for manufacturers demonstrating compliance under section E.2.5.1.1, Option 2, and E.2.5.2.1.1 Option B, final combined and individual state sales volumes of vehicles produced and delivered for sale for each ~~greenhouse gas vehicle test group~~ subconfiguration for California, the District of Columbia, and all states that have adopted California's greenhouse gas emission standards for that model year pursuant to section 177 of the federal Clean Air Act (42 U.S.C. § 7507).

(b) All data submitted in accordance with this section H.4.5, must be submitted electronically and organized in a format specified by the Executive Officer to clearly demonstrate compliance with the fleet average greenhouse gas exhaust emission requirements in section E.2.5.

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